CLAIMS:

1. A photo-curable adhesive sheet comprising a photo-curable composition which comprises a reactive polymer having a photopolymerizable functional group and weight-average molecular weight of not less than 5,000 and which has a glass transition temperature of not more than 20°C, the photo-curable adhesive sheet having a light transmittance of not less than 70% in a wavelength range of 380 to 420 nm.

2. The photo-curable adhesive sheet as defined in claim 1, wherein the reactive polymer has a glass transition temperature of not more than 20°C.

3. The photo-curable adhesive sheet as defined in claim 1 or 2, which has a light transmittance of not less than 80% in a wavelength rang of 380 to 420nm.

4. The photo-curable adhesive sheet as defined in any of claims 1 to 3, wherein the reactive polymer is an acrylic resin.

5. The photo-curable adhesive sheet as defined in any of claims 1 to 4, wherein the reactive polymer has 1 to 50% by mole of the photopolymerizable functional group.

6. The photo-curable adhesive sheet as defined in any of claims 1 to 5, wherein the photopolymerizable functional group is a (meth)acryloyl group.

7. The photo-curable adhesive sheet as defined in any of claims 1 to 6, wherein the photo-curable composition contains 0.1 to 10% by weight of a photopolymerization initiator.

8. The photo-curable adhesive sheet as defined in any of claims 1 to 7, which has a thickness of 5 to 300μm.

9. The photo-curable adhesive sheet as defined in any of claims 1 to 8, wherein a release sheet is provided on at least one side of the photo-curable adhesive sheet.

10. A process for the preparation of an optical information recording medium comprising:

superposing two optical information recording substrates having an uneven surface of recorded pits and/or grooves on each other through the photo-curable adhesive sheet as defined in any of claims 1 to 9 such that the two uneven surfaces face each other,

depressing the substrates and the adhesive sheet to form a laminate, and

curing the laminate by light.

11. The process as defined in claim 10, wherein the depressing step is carried out under reduced pressure.

12. The process as defined in claim 10 or 11, wherein the depressing

step is carried out at room temperature.

13. A process for the preparation of an optical information recording medium comprising:

placing a photo-curable transfer sheet comprising a photo-curable composition which comprises a reactive polymer having a photopolymerizable functional group and weight-average molecular weight of not less than 5,000 and which is capable of deforming by application of pressure on an optical information recording substrate having an uneven surface of recorded pits and/or grooves such that one side of the photo-curable transfer sheet is in contact with the uneven surface of the optical information recording substrate,

depressing the sheet and substrate to form a laminate in which the one side of the photo-curable transfer sheet adheres closely to the uneven surface, and

exposing the photo-curable transfer sheet of the laminate to ultraviolet rays to cure the transfer sheet.

14. The process as defined in claim 13, the depressing step is carried out under reduced pressure.

15. The process as defined in claim 13 or 14, wherein a reflective layer is provided on the uneven surface of the optical information recording substrate.

16. A process for the preparation of an optical information recording

medium comprising:

placing a photo-curable transfer sheet comprising a photo-curable composition which comprises a reactive polymer having a photopolymerizable functional group and weight-average molecular weight of not less than 5,000 and which is capable of deforming by application of pressure on an optical information recording substrate having an uneven surface of recorded pits and/or grooves such that one side of the photo-curable transfer sheet is in contact with the uneven surface of the optical information recording substrate,

depressing the transfer sheet and the substrate to allow the one side of the photo-curable transfer sheet to adhere closely to the uneven surface,

placing a stamper having an uneven surface of recorded pits and/or grooves on the photo-curable transfer sheet such that the uneven surface of the stamper is in contact with a side having no contact with the substrate of the photo-curable transfer sheet,

depressing the substrate, the transfer sheet and the stamper to form a laminate in which the side of the photo-curable transfer sheet adheres closely to the uneven surface of the stamper,

exposing the photo-curable transfer sheet of the laminate to ultraviolet rays to cure the transfer sheet, and

removing the stamper out of the laminate to form unevenness on a surface of the cured photo-curable transfer sheet.

17. The process as defined in claim 16, wherein an organic polymer film is further provided on the surface having unevenness of the cured photo-curable transfer sheet through an adhesive layer.

18. The process as defined in claim 16, wherein another photo-curable transfer sheet is further depressed on the surface having unevenness of the cured photo-curable transfer sheet and cured by irradiation of ultraviolet light.

19. The process as defined in claim 16 or 17, wherein the depressing step is carried out under reduced pressure.

20. The process as defined in any of claims 16 to 18, wherein a reflective layer has been provided on the unevenness surface of the substrate, and a semitransparent reflective layer is further provided on the surface having unevenness of the cured photo-curable transfer sheet.

21. The process as defined in any of claims 13 to 20, wherein the photo-curable composition has a glass transition temperature of not more than 20°C.

22. The process as defined in any of claims 13 to 21, wherein the photo-curable transfer sheet has a light transmittance of not less than 70% in a wavelength range of 380 to 420 nm.

23. The process as defined in any of claims 13 to 22, wherein the photo-curable transfer sheet has a thickness of 5 to 300μm.

24. An optical information recording medium prepared by the process

as defined in any of claims 13 to 23.

25. A photo-curable transfer sheet comprising a photo-curable composition which comprises a reactive polymer having a photopolymerizable functional group and weight-average molecular weight of not less than 5,000 and which is capable of deforming by application of pressure, at least one side of the photo-curable transfer sheet having a surface roughness (Ra) of not more than 30nm.

26. The photo-curable transfer sheet as defined in claim 25, wherein the reactive polymer has a glass transition temperature of not more than 20°C.

27. The photo-curable transfer sheet as defined in claim 25 or 26, wherein the surface roughness (Ra) of not more than 10nm.

28. The photo-curable transfer sheet as defined in any of claims 25 to 27, which has a light transmittance of not less than 70% in a wavelength range of 380 to 420 nm.

29. The photo-curable transfer sheet as defined in any of claims 25 to 28, which has a thickness of 5 to 300μm.

30. A process for the preparation of a photo-curable transfer sheet as defined in any of claims 25 to 29 comprising:

melting a photo-curable composition which comprises a reactive polymer having a photopolymerizable functional group and weight-average

molecular weight of not less than 5,000 and which is capable of deforming by application of pressure, and

casting the melted composition onto an surface of a support having a surface roughness (Ra) of not more than 30nm.

31. A process for the preparation of a photo-curable transfer sheet as defined in any of claims 25 to 29 comprising:

applying a coating liquid containing a photo-curable composition which comprises a reactive polymer having a photopolymerizable functional group and weight-average molecular weight of not less than 5,000 and which is capable of deforming by application of pressure onto a surface of a support having a surface roughness (Ra) of not more than 30nm, and

drying a layer of the coating liquid.